

San Joaquin County Office of Emergency Services
Responses to Delta Stewardship Council Questions (Memo to DPC dated 4/27/10)

Question #20. What kinds of emergency plans are there for the Delta in case of an earthquake.

Response from the Director of Emergency Operations for San Joaquin County

Despite the specificity of the question, I have to assume that the Delta Stewardship Council is concerned with public safety in the Delta in general and will, therefore, reply to their question in a more general vein.

Nature of Emergency Planning in San Joaquin County

Professional policy, as reflected in State and Federal emergency planning guidance, has been to avoid the development of stand-alone plans for specific hazards, such as earthquakes. Local cities and counties develop, instead, a single "multi-hazard functional plan" to address the wide spectrum of disaster response for their jurisdiction. This approach avoids duplication or inconsistencies in describing response functions that are common to all hazards. These common incident management procedures are addressed in a basic planning document while each distinct response discipline of that jurisdiction, e.g. law, fire, public health, etc., outlines its specific responsibilities and response procedures in separate annexes. It should be noted that neither cities nor counties are statutorily responsible for developing the plans of other separate public jurisdictions, such as reclamation districts in the Delta.

In regard to this last point, and for the case of potential Delta flooding, the San Joaquin County Office of Emergency Services has voluntarily for many years assumed responsibility for 1) facilitating and funding joint planning by reclamation districts to meet their responsibilities for responding to threats to levee integrity, and 2) facilitating and funding the development of multi-jurisdictional urban evacuation and rescue plans for areas protected by levees or dams. The San Joaquin County Office of Emergency Services has also voluntarily assumed responsibility for facilitating joint command activities by reclamation districts and supporting local, State, and Federal agencies during a flood aimed at preventing or containing flooding.

Nature of Emergency Response to Delta Floods

Most laymen have a fairly unsophisticated understanding of the nature and complexities of emergency response, particularly for flood events. In the case of Delta floods, the most important distinction to be made is between flood fight operations and the other emergency response functions that come more readily to mind to most people, evacuation, rescue, shelter, etc. My answer to Question #21

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elaborates on the importance of this very important distinction in any attempt to evaluate, and hopefully improve, emergency preparedness in the Delta.

Emergency response command and control in the Delta is also complicated by the great number of jurisdictions, many of which are dependent on each other, that are involved in maintaining the levees. San Joaquin County itself contains 42 significant separate reclamation districts responsible for portions of the overall levee system. Adding the several local, State, and Federal agencies that will arrive to support the efforts of the districts makes this coordination a challenge. These flood fight activities must then be coordinated with the public safety functions that are the responsibility of the many cities and county jurisdictions that overlap the reclamation districts. A key issue for flood response in the Delta, therefore, consists of developing the command and coordination processes necessary to ensure these separate jurisdictions work efficiently together toward common goals.

Status of Emergency Planning in San Joaquin County for Delta Floods

The San Joaquin County Office of Emergency Services maintains a current multi-hazard functional plan for response to disasters. The basic plan outlines the County's system of managing major emergencies. County departments maintain annexes that outline their response procedures for different hazards. In the case where a County department has the lead role, or "command," of a type of incident the procedures for organizing direct response activities in the field is also contained in their annex.

Overall management County response occurs from the County's newly built Emergency Operations Center near the Stockton Airport. The County also manages resources and logistics on behalf of all jurisdictions in the County from this location under a written San Joaquin Operational Area Agreement.

In regard to flood fight operations, the reclamation districts have direct responsibility and jurisdiction for identifying potential threats to levees and responding to prevent levee failure. The Department of Water Resources has some authority in State statute to assume command of such operations but has traditionally acted, in their own words, as "advisors" to the districts as far as command decisions are concerned. Historically, joint operations to contain floodwaters have been improvised in an ad hoc manner at the time of the flood.

However, it was recognized in our County many years ago that floods are not mysteries that can only be unraveled when the floodwaters arrive. The San Joaquin County Office of Emergency Services has attempted to correct this situation by facilitating and funding the development of contingency plans by reclamation districts to improve the quality of situation analysis and command decision making in regard to threats to levees.

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These contingency plans have taken the form of "flood contingency maps" completed for areas with a common hydrological threat. The innovative mapping format displays information in relation to the most important component of floods, geography. The maps have been a highly successful method of sharing information and improving joint operations. The maps display historical, critical topographical, and survey information that are needed for effective situation analysis and decision-making. The maps also display pre-identified joint coordination processes and pre-determined engineering options for reducing flooding impact. These maps can be downloaded and viewed from a dedicated website at www.sjmap.org/oesfcm.

Following completion of the most important flood contingency maps, the San Joaquin County Office of Emergency Services funded the preparation of preliminary engineering designs (P.E.D.) for response options identified in the map development process. These P.E.D.s display preliminary engineering design work for implementing the emergency berms, underpass berms, relief cuts, emergency pumping stations and other engineering actions identified as practical options for containing floodwaters. The completion of these designs will allow each response option to be implemented in a more expeditious and effective manner if needed. This type of work, involving only a modest expenditure, has not been done anywhere else in the Delta to our knowledge. This additional work follows logically from development of the flood contingency maps and moves the County away from the traditional ad hoc response to expedited pre-planned response.

As noted above, the San Joaquin County Office of Emergency Services has also voluntarily assumed responsibility for assisting its reclamation districts to meet their command and coordination responsibilities in an actual flood. Several Delta "joint flood fight commands" have been created that provide the basis for joint command and coordination activities between the many reclamation districts and State and Federal agencies directly supporting their flood fight operations. The Office of Emergency Services directly facilitates the operations of these joint commands. A map of these "joint flood fight commands" can be downloaded and viewed at the same website as noted above.

In rural areas the issues of evacuation, rescue, and security are also addressed on the flood contingency maps. Rural areas present a less complicated situation in regard to these functions. Rural residents tend to be more familiar with the flooding threat, can make independent assessments of the risk, and will take independent action to protect their lives and property. Actual homes, labor camps, and other structures in the area are shown on each flood contingency map. The maps also display other evacuation issues, such as locations of large amounts of hazardous materials and any special problems that may affect evacuation of the area to assist with Sheriff response.

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In regard to urban areas, the problems of warning, evacuation, rescue, and shelter are much more complex and cannot be addressed effectively on the flood contingency maps along with the flood fight information. In this case, the San Joaquin County Office of Emergency Services has facilitated and funded the preparation of urban evacuation maps for highly populated areas. Most of these areas are located within incorporated cities. These maps, developed with input from city and county law enforcement and other public safety agencies, pre-identify command posts, tactical facilities, evacuation routes, and rally points to be used for evacuation and rescue operations in each identified evacuation zone. The maps also identify all schools, care homes, medical facilities, and other vulnerable populations in each zone. These maps are posted on a secure, dedicated website so that the maps can be quickly accessed along with supporting response guides and other information. Versions of these maps for use by the general public have been developed and are posted on a dedicated website and in libraries. Framed copies of these maps are being prepared for posting within each evacuation zone if a threat develops. Examples of these maps can be provided to the Delta Stewardship Council if requested.

Response Equipment to Support Flood Fight and other Public Safety Operations

It is absolutely necessary that appropriate specialized equipment be acquired to support operations reflected on the maps if these plans and procedures are to be effective. The San Joaquin County Office of Emergency Services has acquired equipment identified in the planning process as being essential to effective response and continues to acquire needed equipment as funding becomes available.

In regard to flood fight operations, the office maintains seven large storage containers at the California Youth Authority Facility near the Stockton Airport. These containers contain large amounts of sandbags, plastic visquine, and other materials needed to address common threats to levees. These supplies will support major problems that may arise within the reclamation districts. The districts maintain their own supplies for typical and minor problems that occur on levees during the flood. The OES containers can be moved to the vicinity of the problem and are equipped with lights and power so that they can serve as an office for managing the materials. The San Joaquin County Office of Emergency Services also has the authority through the written San Joaquin Operational Area Agreement to support reclamation districts with additional supplies or engineering contracting services if necessary.

In regard to supporting other public safety operations, the San Joaquin County Office of Emergency Services maintains three mobile radio transmitters for providing information to residents that are awaiting evacuation orders or evacuating. Equipment has been stockpiled to convert bulk fuel carriers so they can directly fuel

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evacuation vehicles. The office also maintains supplies of passes, signs, and other equipment that would be needed to implement procedures outlined on the evacuation maps.

Summary Considerations

The Delta Stewardship Council addressed a question to the counties that specifically referenced earthquake response. I would advise the Council that the issue of response to such less likely events, whose characteristics are predicated on hypothetical analysis rather than actual experience, should only be addressed after the Council has a firm understanding of the nature of more likely, and historically better understood, events such as the major flood events that occur with regularity in the Central Valley. Once an understanding of the status of preparedness for those actually experienced events is gained, an adequate evaluation of the response to less likely and more hypothetical events can be made.

I would make the final point that the issue of emergency response is as complex and difficult as any other issue affecting the Delta. There are very real bureaucratic and jurisdictional barriers to significant progress to a better response system that can only be understood if a more than superficial review of this important subject is completed. I would encourage a direct dialogue between the Council and the emergency managers who have direct responsibility for planning and directing emergency response in the Delta. In this way, the Council can acquire a more sophisticated understanding of the issues and problems barring the way to a better response system and avoid superficial and non-substantial recommendations.

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Question #21. What are the ways to prevent a catastrophic levee failure rather than respond to such failures.

Response from the Director of Emergency Operations for San Joaquin County

There are two basic methods for preventing a catastrophic levee failure rather than just responding to failures. The first method has had the attention of the legislature and past task forces charged to review the Delta. This method is to improve our flood control infrastructure and how that infrastructure is operated in a flood. This infrastructure, consisting of the current system of dams, levees, bypasses, and weirs, is the first line of defense in a flood. However, improvements to this system must be made prior to the onset of a flood.

The second method for preventing catastrophic failure is the conduct of flood fight operations at the time of the flood. This term "flood fight operations" is defined as those activities directly related to identifying threats to levee integrity that arise while the flood is passing through the system and responding to any such threats to prevent failure of the levee. It also includes engineering actions taken to reduce the extent, depth, and/or duration of the flood impact if a primary levee does, unfortunately, fail. This second method of preventing catastrophic failure, or mitigating its impact, has been virtually ignored in any formal reviews and has, at best, been treated in a superficial manner.

It is usually controversial to try to characterize the current California flood fight response system as "good" or "bad". But even if one wants to term the current system as "good" it is indisputable that it could be better. California should have, but does not have, the best possible flood fight response system in the world. This is the last line of defense for keeping damages to a minimum once the flood has arrived. The State does not have the best possible flood fight system in the world because there are significant jurisdictional, legal, and bureaucratic barriers preventing the development of an even better system than the current one.

In general, it can be stated that we currently have an upside down flood fight system where the agencies best placed and motivated to react to levee problems during a flood have the least resources and the agencies that have the resources to react are the slowest and most bureaucratic. Difficult jurisdictional issues are complicated by counter-productive federal reimbursement regulations and nonsensical State policies against empowering local reclamation districts to use their "presence on the ground" to effectively prevent incipient levee problems from getting worse.

The issues of flood fight response are complex and difficult to summarize in a short response. The San Joaquin County Office of Emergency Services is, therefore, ready to engage in a dialogue with the Delta Stewardship Council on this issue if requested.

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